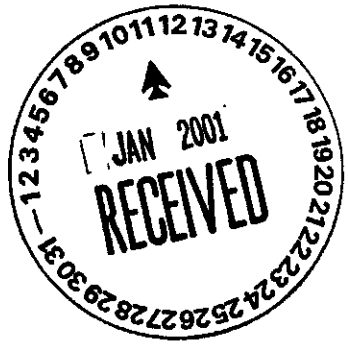
H1186

0054596

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B99-042 H1186

DATE RECEIVED: 12/14/00 RFW LOT # :0012L571

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B112Y5						
LEAD, TOTAL	001	S	99L1875	12/12/00	01/03/01	01/04/01
LEAD, TOTAL	001 REP	S	99L1875	12/12/00	01/03/01	01/04/01
LEAD, TOTAL	001 MS	S	99L1875	12/12/00	01/03/01	01/04/01
LAB QC:						
LEAD LABORATORY	LC1 BS	S	99L1875	N/A	01/03/01	01/04/01
LEAD, TOTAL	MB1	S	99L1875	N/A	01/03/01	01/04/01



RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: TNU-HANFORD B99-042
RFW#: 0012L571
SDG/SAF#: H1186/B99-042

W.O.#: 10985-001-001-9999-00
Date Received: 12-14-00

METALS CASE NARRATIVE

1. This narrative covers the analysis of 1 soil sample.

2. The sample was prepared and analyzed in accordance with methods checked on the attached glossary.

3. All analyses were performed within the required holding times.

4. The cooler temperature has been recorded on the Chain of Custody.

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury). The CCV immediately after the samples had insufficient volume for analysis. The CCV solution was repoured and reanalyzed within control limits.

6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the PQL).

7. The preparation/method blank (MB) was within method criteria {less than the Practical Quantitation Limit (3X the IDL), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

8. All ICP Interference Check Standards were within control limits.

9. The laboratory control sample (LCS) was within the 80-120% control limits. Refer to form 7.

10. The matrix spike (MS) recovery was within the 75-125% control limits. Refer to the Inorganics Accuracy Report.

11. The duplicate analysis was within the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

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12. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.

13. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

01-09-01

J. Michael Taylor
VP, Laboratory General Manager
Lionville Laboratory
Date

gmb/m12-571

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Recra Lot#: 0012L571

Leaching Procedure: __1310 __1311 __1312 __Other:_____

CLP Metals __ Digestion and __ Analysis Methods: __ILM03.0 __ILM04.0

Metals Digestion Methods: __3005A __3010A __3015 __3020A ✓3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846	EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B	__200.7				__99
Antimony	__6010B __7041 [5]	__200.7	__204.2			__99
Arsenic	__6010B __7060A [5]	__200.7	__206.2	__3113B		__99
Barium	__6010B	__200.7				__99
Beryllium	__6010B	__200.7				__99
Bismuth	__6010B [1]	__200.7 [1]			__1620	__99
Boron	__6010B	__200.7				__99
Cadmium	__6010B __7131A [5]	__200.7	__213.2			__99
Calcium	__6010B	__200.7				__99
Chromium	__6010B __7191 [5]	__200.7	__218.2			__SS17
Cobalt	__6010B	__200.7				__99
Copper	__6010B __7211 [5]	__200.7	__220.2			__99
Iron	__6010B	__200.7				__99
Lead	✓6010B __7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B __7430 [4]	__200.7			__1620	__99
Magnesium	__6010B	__200.7				__99
Manganese	__6010B	__200.7				__99
Mercury	__7470A [3] __7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	__6010B	__200.7				__99
Nickel	__6010B	__200.7				__99
Potassium	__6010B __7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]	__200.7 [1]			__1620	__99
Selenium	__6010B __7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]	__200.7			__1620	__99
Silica	__6010B	__200.7			__1620	__99
Silver	__6010B __7761 [5]	__200.7	__272.2			__99
Sodium	__6010B __7770 [4]	__200.7	__273.1 [4]			__99
Strontium	__6010B	__200.7				__99
Thallium	__6010B __7841 [5]	__200.7	__279.2	__200.9		__99
Tin	__6010B	__200.7				__99
Titanium	__6010B	__200.7				__99
Uranium	__6010B [1]	__200.7 [1]			__1620	__99
Vanadium	__6010B	__200.7				__99
Zinc	__6010B	__200.7				__99
Zirconium	__6010B [1]	__200.7 [1]			__1620	__99

Other:_____ Method:_____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LCS = Laboratory Control Sample.
NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.

2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).

4. Flame AA.

5. Graphite Furnace AA.

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INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD B99-042 H1186 RECRA LOT #: 0012L571

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B112Y5	Lead, Total	15.1	MG/KG	0.22	1.0

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INORGANICS METHOD BLANK DATA SUMMARY PAGE 01/04/01

CLIENT: TNUHANFORD B99-042 H1186 RECRA LOT #: 0012L571

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	99L1875-MB1	Lead, Total	0.21 u	MG/KG	0.21	1.0

Recra LabNet - Lionville

INORGANICS ACCURACY REPORT 01/04/01

CLIENT: TNUHANFORD B99-042 H1186 RECRA LOT #: 0012L571

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	B112Y5	Lead, Total	60.9	15.1	51.6	88.8	1.0

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INORGANICS PRECISION REPORT 01/04/01

CLIENT: TNUHANFORD B99-042 H1186 RECRA LOT #: 0012L571

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B112Y5	Lead, Total	15.1	14.8	2.0	1.0

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INORGANICS LABORATORY CONTROL STANDARDS REPORT 01/04/01

CLIENT: TNUHANFORD B99-042 H1186 RECRA LOT #: 0012L571

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	99L1875-LC1	Lead, LCS	247	250	MG/KG	98.7

RECRA LabNet Use Only
0012L571

Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU-Hanford B99-042

Est. Final Proj. Sampling Date:

Project #: 10985-001-001-9999-00

Project Contact/Phone #:

RECRA Project Manager: OJ

QC: Spec Del: Std TAT: 21 day

Date Rec'd: 12-14-00 Date Due: 1-4-01

Account #:

Refrigerator #		A S
#/Type Container	Liquid	
	Solid	1AG
Volume	Liquid	
	Solid	250
Preservatives		-

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	mPBTO (RECRA LabNet Use Only)
001	B11245	✓	✓	S	12/12/00	0943	✓

Special Instructions: SAF B99-042

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

RECRA LabNet Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # Seebdaw
2) (Ambient) or Chilled
3) Received in Good Condition (Y) or N
4) Labels Indicate Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

COC Tape was:
1) Present on Outer Package Y or (N)
2) Unbroken on Outer Package Y or N
3) Present on Sample (Y) or N
4) Unbroken on Sample (Y) or N
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 13.0 °C

Relinquished by	Received by	Date	Time
FedEx	TKappel	12/14/00	0945

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES: 4235 7954 1260

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-042-102	Page 1 of 1

Collector: Renee Nielson	Company Contact: Mike Stankovich / Telephone No.: 531-76201	Project Coordinator: TRENT, SJ	Price Code: 8L / Air Quality ☐ / Data Turnaround: 21 Days
Project Designation: 100 H Area - Full Protocol	Sampling Location: 100-H-21	SAF No.: B99-042	
Ice Chest No.: 4G BOX (1 of 1)	Field Logbook No.: EL1500-3 / COA RH0PEP2600 ~~R10H212600~~ RIN 12/12/00	Method of Shipment: Federal Express	
Shipped To: TMA/RECRA	Offsite Property No.: A0160036	Bill of Lading/Air Bill No.: 42357953-1264	

POSSIBLE SAMPLE HAZARDS/REMARKS

NONE

Special Handling and/or Storage

Preservation	None											
Type of Container	aG											
No. of Container(s)	1											
Volume	250mL											
SAMPLE ANALYSIS	See item (1) in Special Instructions.											TPTE
Sample No.	Matrix *	Sample Date	Sample Time									
B112Y5	SOIL	12/12/00	0943	X								BDNXY3

CHAIN OF POSSESSION

Relinquished By	Date/Time	Received By	Date/Time
K Nielson/R. Nielson	12/12/00 1545	~~Received By~~ RIN 12/12/00 Stored in Ref # 2A	
~~Relinquished By~~ Removed from Ref 2A 3728	12-13-00 0800	R. Thoren	12-13-00 0800
R. Thoren	12-13-00 0800	FEDEX	
FedEx	12-14-00 0945	Thrapel	12-14-00 0945

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (Supertrace) (~~Arsenic, Chromium~~, Lead); ~~Mercury - 7471 - (CV)~~

RIN 12/11/00

Samples stored in Ref.# 2A at the 3728 Shipping Facility on 12/12/00 Collector not available to relinquish samples on 12/13/00 for shipment.

RT 12-13-00

Matrix *: S=Soil; SE=Sediment; SO=Solid; S=Sludge; W=Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; WI=Wipe; L=Liquid; V=Vegetation; X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)